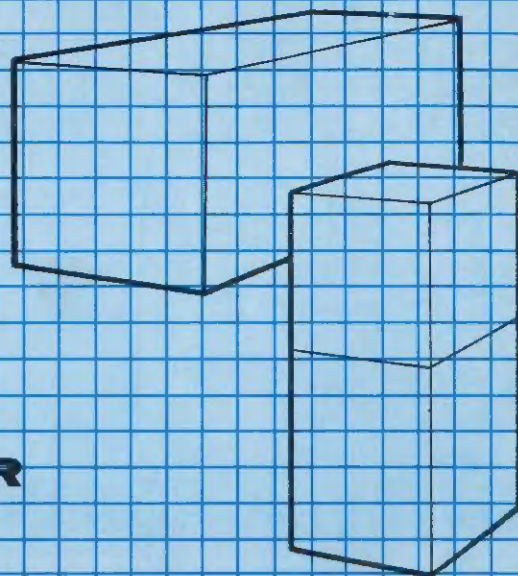
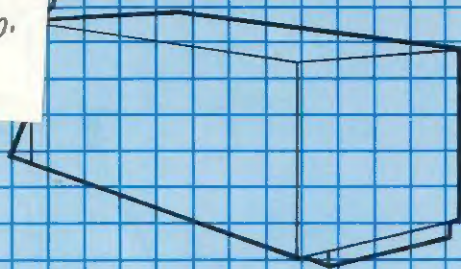


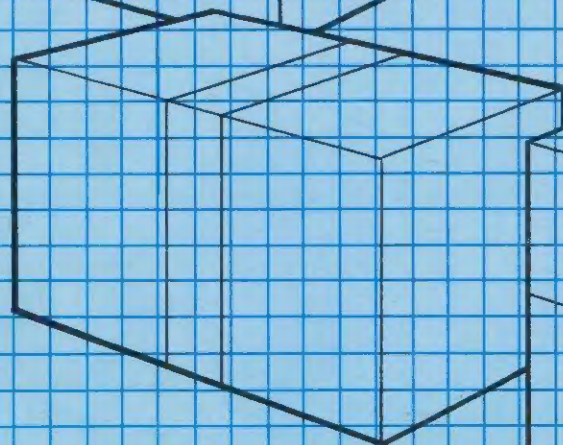
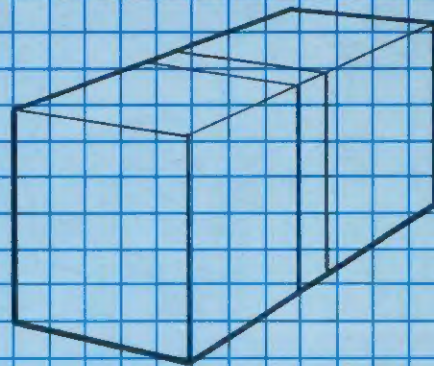
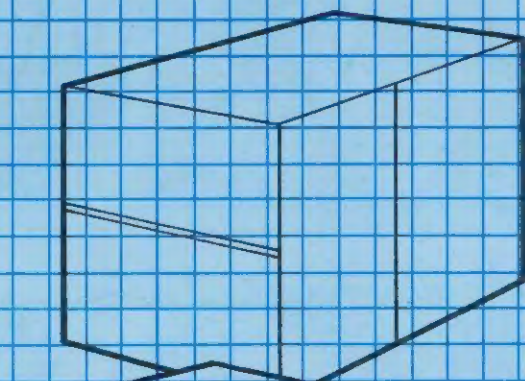
Class D23  
Heating Equip.  
Box I



**DESIGNED AND  
ENGINEERED FOR**

rec. 10/31/64

**OUTSTANDING  
PERFORMANCE**



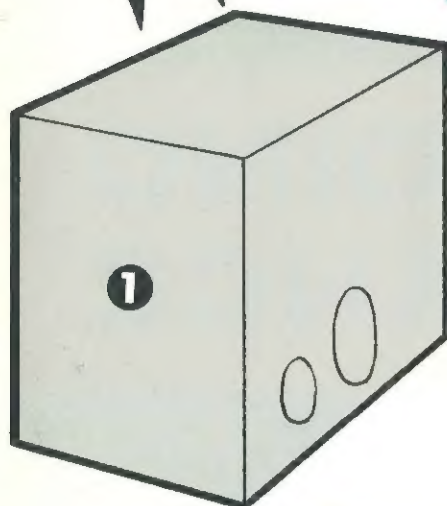
**TJERNLUND**  
HEATING AND  
COOLING  
EQUIPMENT





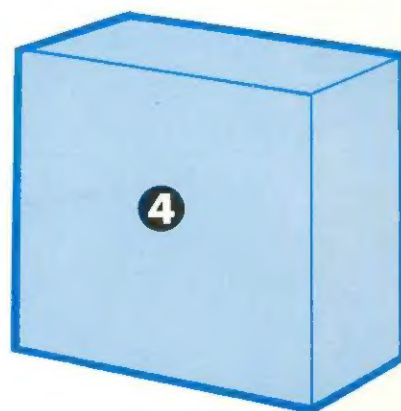
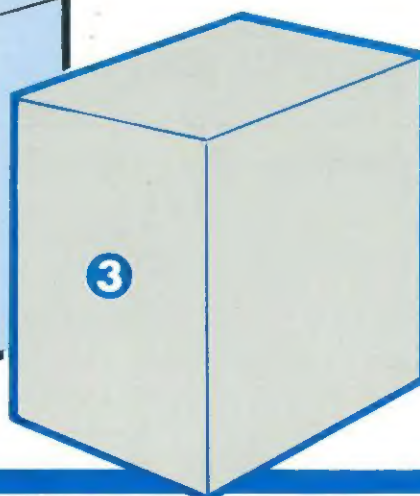
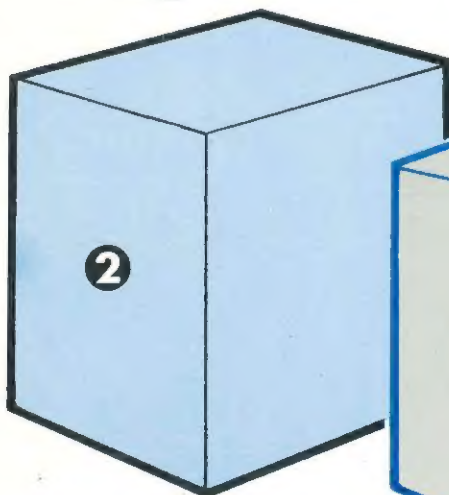
# TJERNLUND

## PACKAGED UNITS ARE CUSTOM FITTED FOR ANY HEATING OR AIR-CONDITIONING INSTALLATIONS



Keeping pace with modern architectural designs and building construction, Tjernlund offers convenient adaptations for heating and cooling requirements. Whatever the need... and the space... there is a style and size in any combination of packaged units for custom fitted installations. Simple adaptability to structural specifications plus outstanding performance is made possible because Tjernlund equipment is produced and assembled in one plant.

- 1** Heater section encloses multiple flue heat exchanger
- 2** Blower and filter assembly matching section
- 3** Air-conditioning assembly in optional dimensions
- 4** By-pass sections in optional size matching cabinets



Advanced features of construction and design for better performance has been packaged in units that provide more adequate use of space allotments. From basement to roof, Tjernlund units can be combined to provide more efficient heating and cooling without sacrificing excessive space for these facilities. They are assembled and shipped according to given specifications conforming to the installation.

This reference catalog provides the fundamental information to plan efficient heating and cooling installations adaptable to structural requirements. It simplifies application details with basic specifications and diagrams of general heating and cooling combinations and assembly of the packaged units. For special heating and cooling requirements and detailed installation instructions, additional data bulletins are available.



**CEILING  
BEAMS**

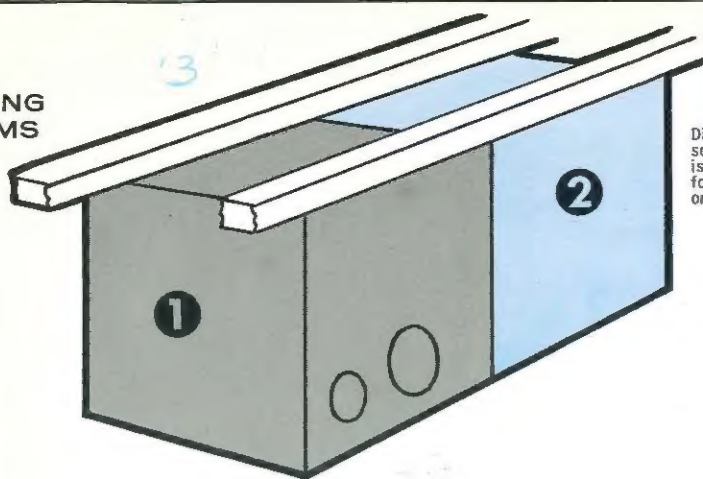
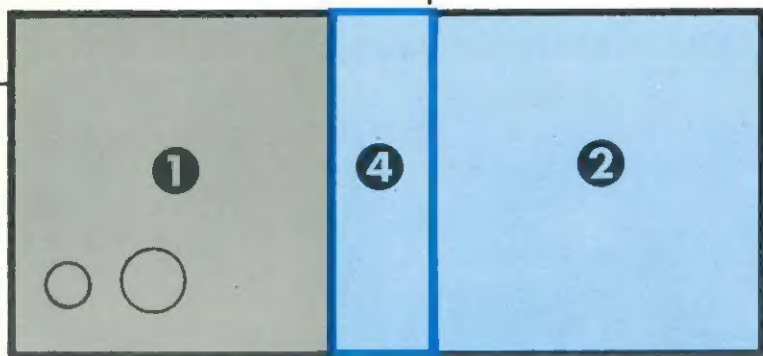
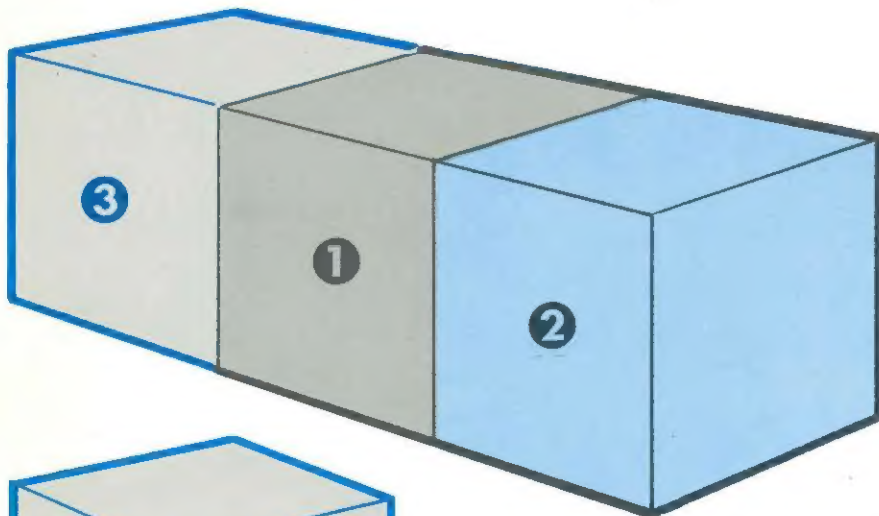


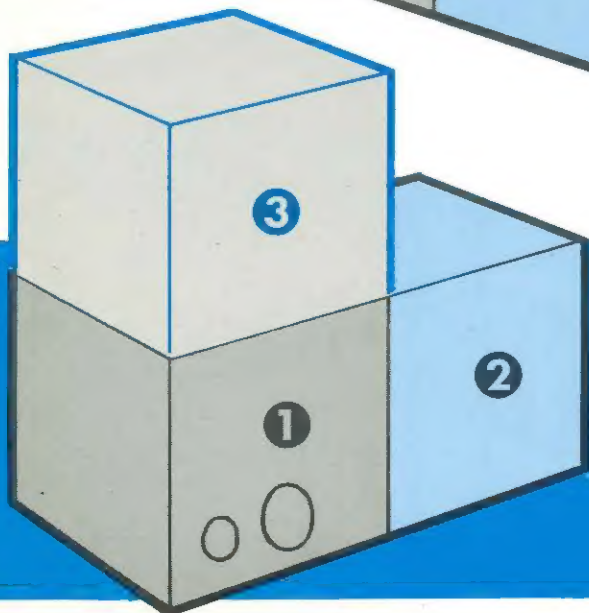
Diagram shows how basic assembly for overhead mounting is made in matching units for forced air heating from ducts or discharge louvers.



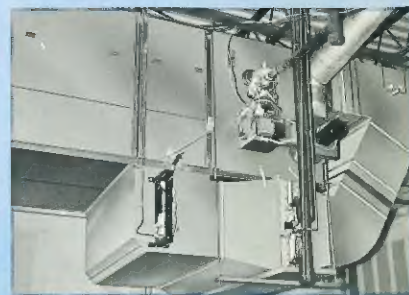
By-pass section in optional sizes according to requirements is easily fitted between heating and blower units for controlled heat distribution.



For combination heating and cooling, the cooling unit, the heating unit and the blower unit can be fitted together in various arrangements.



Vertical, horizontal or sectional arrangements can be made in various capacities according to heating-cooling requirements and installation. Numerous additional adaptations can be made for special requirements. Firing from right or left side is optional.



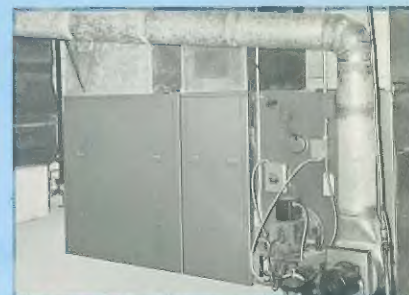
Ceiling mounted assembly with by-pass coil system combination heating and cooling. Tjernlund draft inducing single stage burner.



Ceiling mounted suspended heater for make-up air application using directional flow grill. Multi-stage firing.



Roof mounted penthouse installation with integral cooling section. Combination heating and cooling for spacious super market with 500,000 BTU heating and 15 tons cooling.



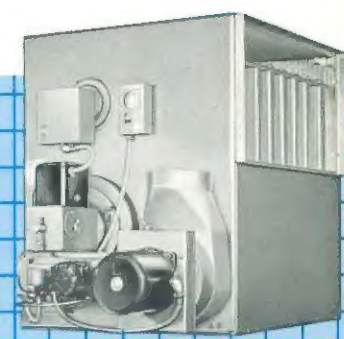
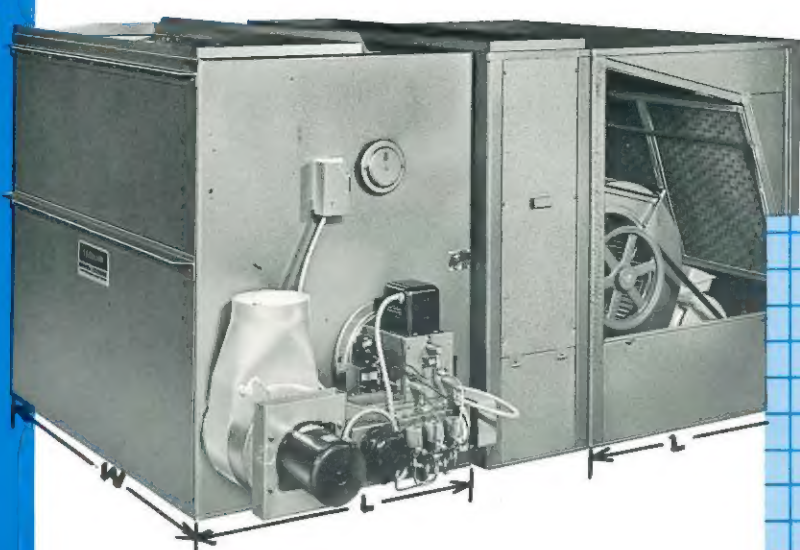
Floor installation of 400,000 BTU heating capacity and make-up air application Tjernlund 3-stage oil burner with modulated output in relation to outside temperatures.



# STYLE A ADAPTATIONS

# STYLE A HORIZONTAL FLOOR OR SUSPENDED APPLICATION

OIL-GAS OR  
COMBINATION  
OIL AND GAS...



- For floor or suspended mounting
- All casings and parts matched in silicon base baked enamel finish

Underwriters Laboratories, Inc.  
INSPECTED



GAS fired models, 35 through 100 have jet fire burners as standard equipment. Models 150 and larger are equipped with integral draft inducing power type gas burner. All OIL fired models are equipped with integral draft inducing oil burners.

Three-stage modulating burners available for models 100 through 400 for both gas and oil firing. Combination gas and oil burners also available for all heaters.

All units standard with high heat resistant stainless steel wrapper in combustion area. Aluminized steel flues standard on all units.

## STYLE "A" FURNACE — Oil or Gas Fired

MODEL NO.	B.T.U. OUTPUT	AIR C.F.M.	HEATER			BLOWER		
			H	W	L	H	W	L
35	150,000	1,600	35"	26"	28"	35"	26"	28"
50	200,000	2,300	35"	33"	28"	35"	33"	28"
70	250,000	2,800	35"	41"	28"	35"	41"	28"
100	350,000	4,200	47"	41"	35"	47"	41"	35"
150	550,000	6,300	47"	56"	35"	47"	61"	35"
200	670,000	8,400	50"	64"	42"	50"	65"	42"
280	896,000	10,000	50"	80"	42"	50"	81"	42"
340	1,128,000	12,000	60"	80"	51"	60"	81"	51"
400	1,340,000	14,000	66"	80"	51"	66"	81"	51"

BY-PASS OPTIONAL AS SPECIFIED

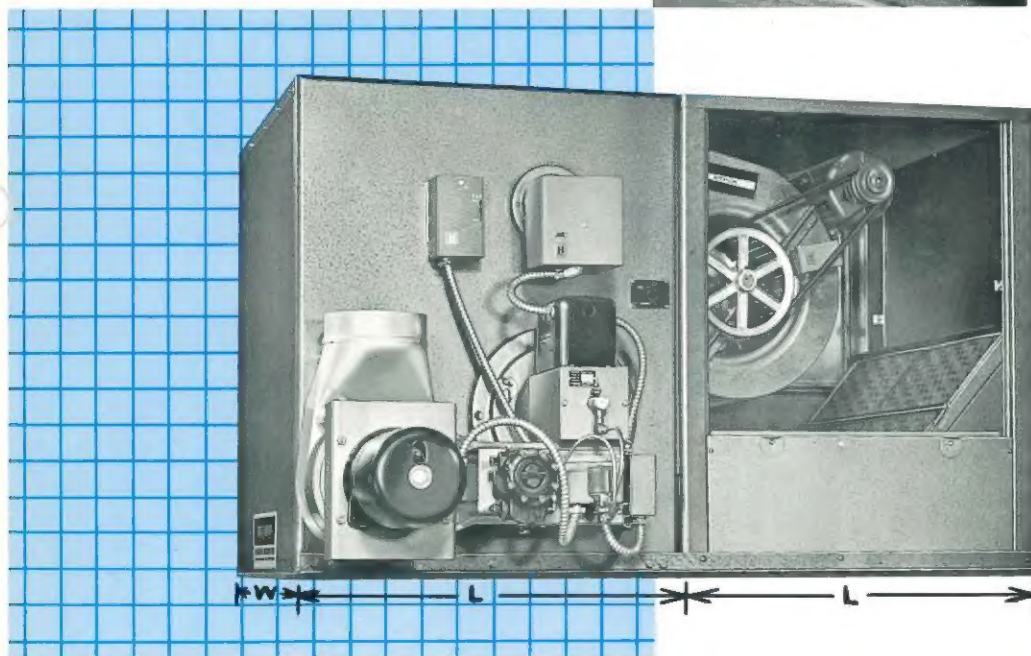
COMPLETE DATA AVAILABLE



# VARIABLE ASSEMBLIES TO MEET EVERY HEATING INSTALLATION

This unit can be floor mounted, wall hung, suspended or adapted to roof installation. Style D is a horizontal counterflow design with bottom discharge and a bottom or side intake as required for type of installation.

Blower-filter cabinet and four-way deflection discharge grill or plenum are optional. Burner mounting optional, right or left. Furnaces are available with bare coil sections for future addition of direct expansion or water cooling coils. Versatility and performance of this unit provide for various special adaptations other than those shown. It is highly recommended for factories, schools, garages, recreation centers, service stations and warehouses.

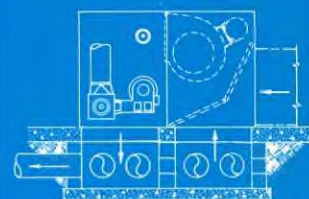


MODEL NO.	B.T.U. OUTPUT	AIR C.F.M.	HEATER			BLOWER		
			H	W	L	H	W	L
35	150,000	1,600	35"	26"	28"	35"	26"	28"
50	200,000	2,300	35"	33"	28"	35"	33"	28"
70	250,000	2,800	35"	41"	28"	35"	41"	28"
100	350,000	4,200	47"	41"	35"	47"	41"	35"
150	550,000	6,300	47"	56"	35"	47"	61"	35"
200	670,000	8,400	50"	64"	42"	50"	65"	42"
280	896,000	10,000	50"	80"	42"	50"	81"	42"
340	1,128,000	12,000	60"	80"	51"	60"	81"	51"
400	1,340,000	14,000	66"	80"	51"	66"	81"	51"

BY-PASS OPTIONAL AS SPECIFIED

COMPLETE DATA AVAILABLE

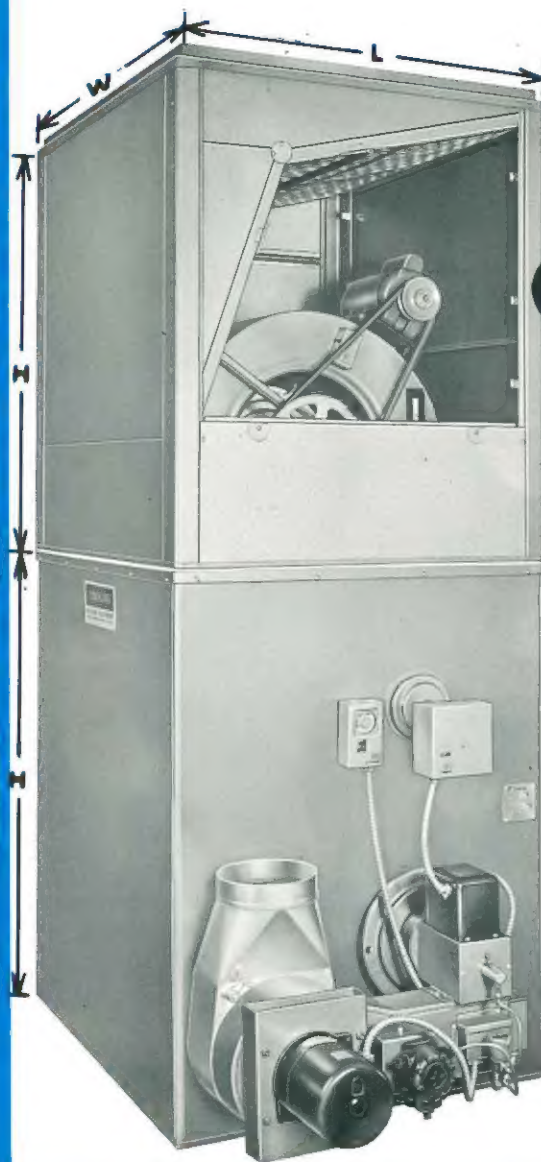
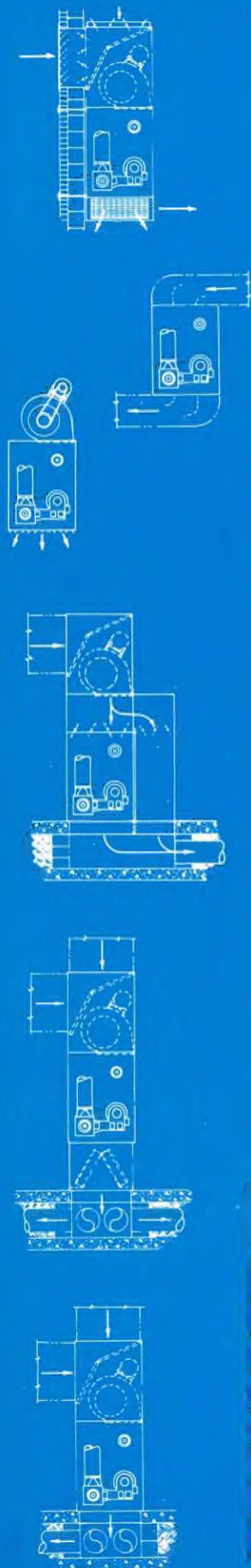
## STYLE D ADAPTATIONS





# STYLE E ADAPTATIONS

## SPACE SAVING Floor or Wall Mounting



### STYLE E COUNTERFLOW

Depending on job requirements this counterflow unit is highly efficient in a variety of applications and installations. It can be gas or oil fired or a combination of both gas and oil.

Coil or by-pass sections can be applied in sectional cabinets as specified.

Saves on floor space or can be conveniently wall mounted as an advantage in various installation requirements.

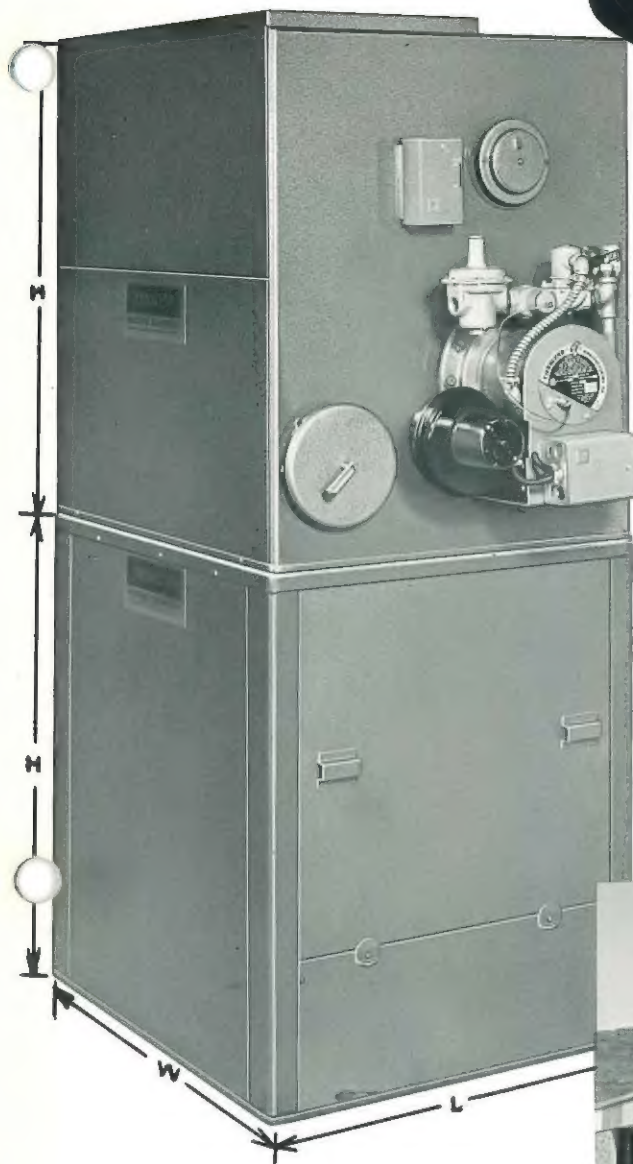


MODEL NO.	B.T.U. OUTPUT	AIR C.F.M.	HEATER			BLOWER		
			H	W	L	H	W	L
35	150,000	1,600	35"	26"	28"	35"	26"	28"
50	200,000	2,300	35"	33"	28"	35"	33"	28"
70	250,000	2,800	35"	41"	28"	35"	41"	28"
100	350,000	4,200	47"	41"	35"	42"	41"	35"
150	550,000	6,300	47"	56"	35"	42"	61"	35"
200	670,000	8,400	50"	64"	42"	44"	65"	42"
280	896,000	10,000	50"	80"	42"	44"	81"	42"
340	1,128,000	12,000	60"	80"	51"	51"	81"	51"
400	1,340,000	14,000	66"	80"	51"	51"	81"	51"

BY-PASS OPTIONAL AS SPECIFIED

COMPLETE DATA AVAILABLE





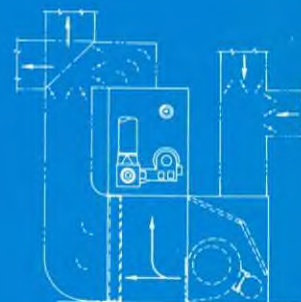
Hi-Boy type units are the answer to limited floor space. A minimum floor area will handle the many adaptations of this unit. The Hi-Boy is available in both gas and oil fired models with burner mountings optional right or left. Adaptable to coil cabinets or face and by-pass section.

Three-stage modulating burners are available for models 100 through 400 for both gas and oil firing. Combination gas and oil burners are also available for all models.

Integral draft burners are regular equipment on all oil fired models. Gas fired models 35, 50, 70 and 100 have jet fire power gas burner. Larger models equipped with integral draft inducing gas burner.



## STYLE H ADAPTATIONS



MODEL NO.	B.T.U. OUTPUT	AIR C.F.M.	HEATER			BLOWER		
			H	W	L	H	W	L
35	150,000	1,600	35"	26"	28"	35"	26"	28"
50	200,000	2,300	35"	33"	28"	35"	33"	28"
70	250,000	2,800	35"	41"	28"	35"	41"	28"
100	350,000	4,200	47"	41"	35"	42"	41"	35"
150	550,000	6,300	47"	56"	35"	42"	61"	35"
200	670,000	8,400	50"	64"	42"	44"	65"	42"
280	896,000	10,000	50"	80"	42"	44"	81"	42"
340	1,128,000	12,000	60"	80"	51"	51"	81"	51"
400	1,340,000	14,000	66"	80"	51"	51"	81"	51"

BY-PASS OPTIONAL AS SPECIFIED

COMPLETE DATA AVAILABLE

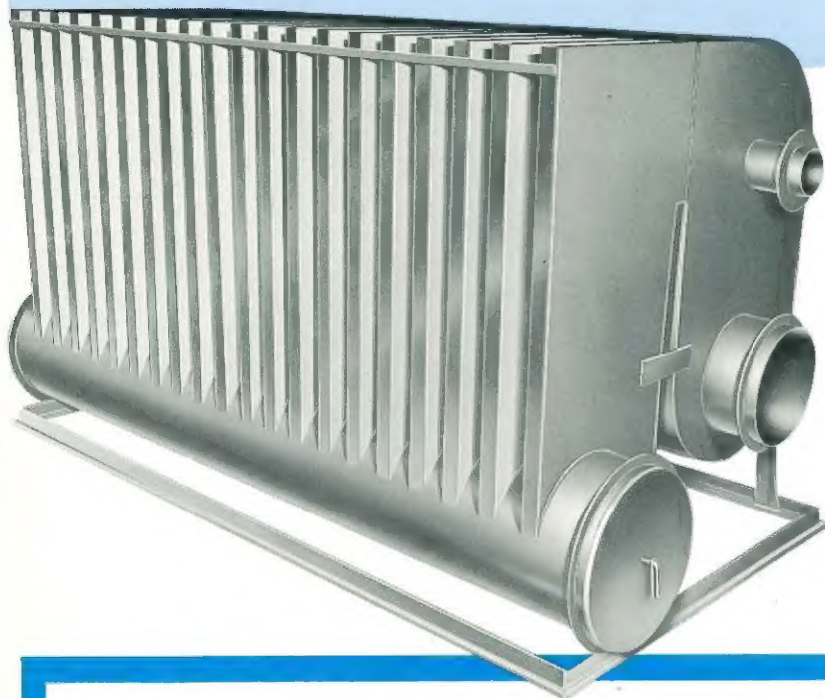


**TJERNLUND** *Stainless Steel  
and Aluminized*

## Heat Exchangers

### FOR OUTSTANDING PERFORMANCE

This Tjernlund exclusive gives greater heat distribution from a smaller area. The multiple flue arrangement gives a maximum of heating surface in a minimum space.



- Flue outlet and burner mounting optional on either side of heat exchanger.
- Direct firing into stainless steel combustion chamber without restrictions to block heat transfer.
- Slightly convex flue forms eliminate expansion-contraction noises.
- Down flow of gases allows even heat distribution over entire flue area.
- Vertical flues of rust-resistant aluminized steel make unit practically self-cleaning.
- Large, accessible cleanout and inspection ports.
- Complete stainless steel heat exchanger available to overcome excessive condensation situations.

**TJERNLUND**

Space saving heating and cooling efficiency for:

**FACTORIES  
OFFICE BUILDINGS  
SHOPPING CENTERS  
SCHOOLS  
DRIVE-INS  
RECREATION CENTERS  
SUPER MARKETS**

Tested and proven on many types of buildings.

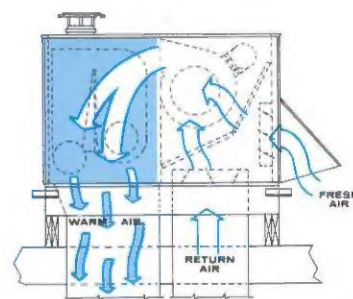
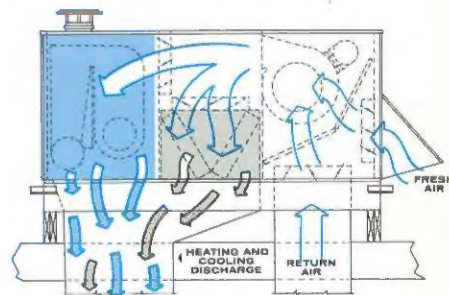


Diagram shows unit assembly for straight heating purposes or make-up air application. Can be controlled for 100% outside air or mixed with interior air return.



Damper controlled assembly for combination or separate heating and cooling delivery. Diagram shows use of separate supply and return ducts. Available for face and by-pass application.

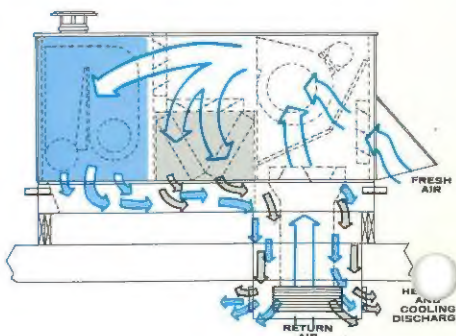


Diagram above shows combination unit with central supply and return section. Available in heating and cooling or straight heating.

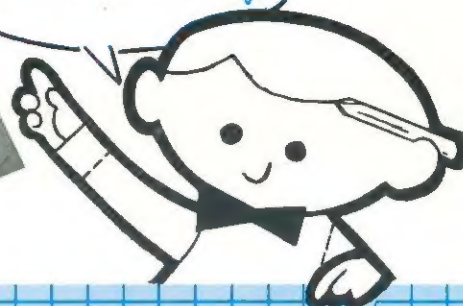


ROOF  
MOUNTED

# PENTHOUSE UNIT

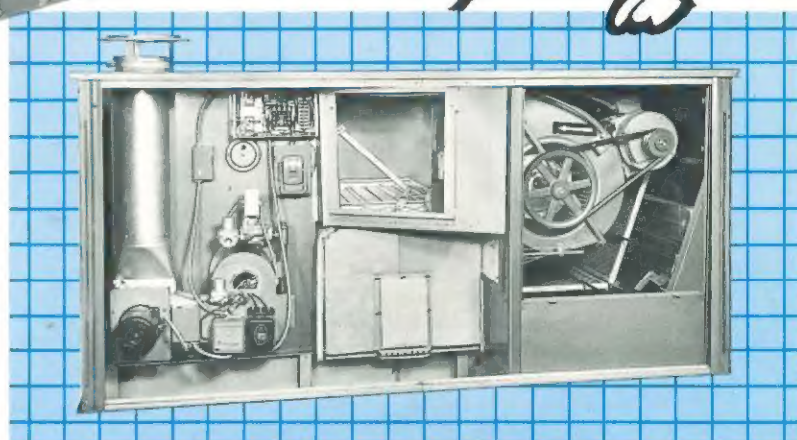


*There's Lots of  
Space on the Roof*



Completely  
Protected in  
Aluminized Steel  
Exterior Housing

Easy  
Accessibility  
With Removable  
Side Panels



CUSTOM UNITS completely packaged to meet installation requirements. COMPLETE WEATHERPROOF ENCLOSURE, yet allows for easy accessibility with removable side panels.

INSTALLATION IS SIMPLIFIED — does not require a chimney and reduces amount of duct work.

GAS OR OIL FIRED with advanced design Tjernlund single stage or 3-stage modulating burners. Also available in combination gas and oil integral draft inducing burners.

YEAR ROUND OPERATION with combination heating and cooling sections or can be installed for heating purposes only. ADAPTABILITY for any location or capacity with the flexible Tjernlund design that overcomes installation problems.

## PERFORMANCE DATA

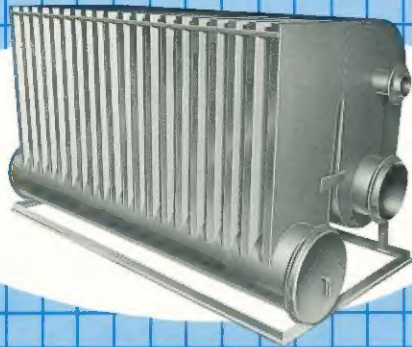
MODEL HEATER BLOWER	COIL CAP. IN TONS	B.T.U. OUTPUT	C.F.M.	HP	MODEL HEATER BLOWER	COIL CAP. IN TONS	B.T.U. OUTPUT	C.F.M.	HP
280 340	30	896,000	12,000	5	100 100	10	350,000	4,000	1-½
200 340	30	670,000	12,000	5	70 100	10	250,000	4,000	1-½
					50 100	10	200,000	4,000	1-½
200 280	25	670,000	10,000	3					
150 280	25	550,000	10,000	3	70 70	7-½	250,000	3,000	1
					50 70	7-½	200,000	3,000	1
150 200	20	550,000	8,000	3	35 70	7-½	150,000	3,000	1
100 200	20	350,000	8,000	3					
150 150	15	550,000	6,000	3	50 50	5	200,000	2,000	½
100 150	15	350,000	6,000	3	35 50	5	150,000	2,000	½
70 150	15	250,000	6,000	3	35 35	3	150,000	1,200	⅓



**TJERNLUND**  
Engineering Skill

that  
means

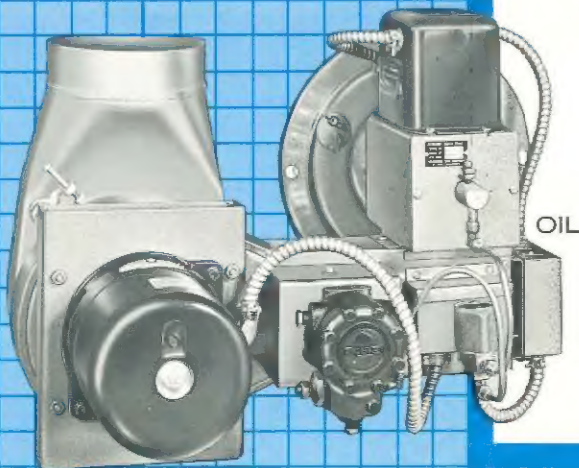
**Outstanding**  
WITH CUSTOMIZED PERFECTION



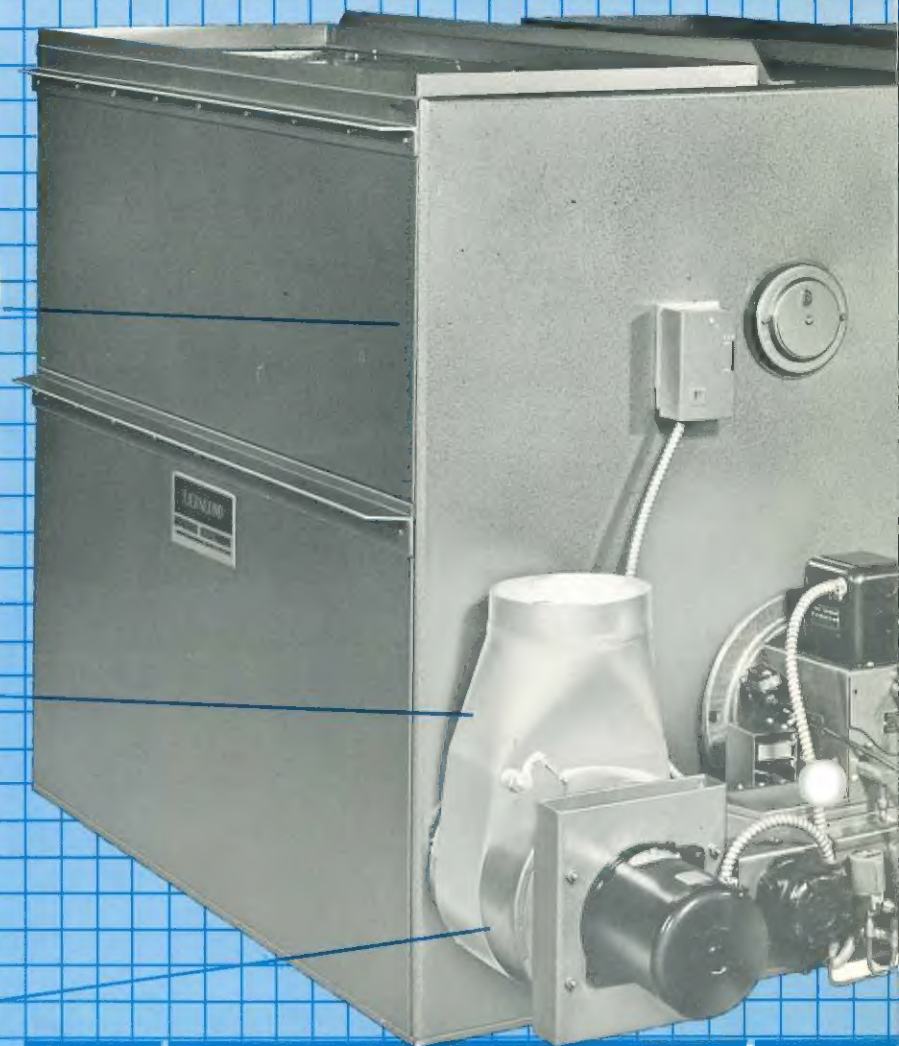
COMBINATION  
GAS & OIL



SINGLE STAGE  
POWER  
GAS BURNER

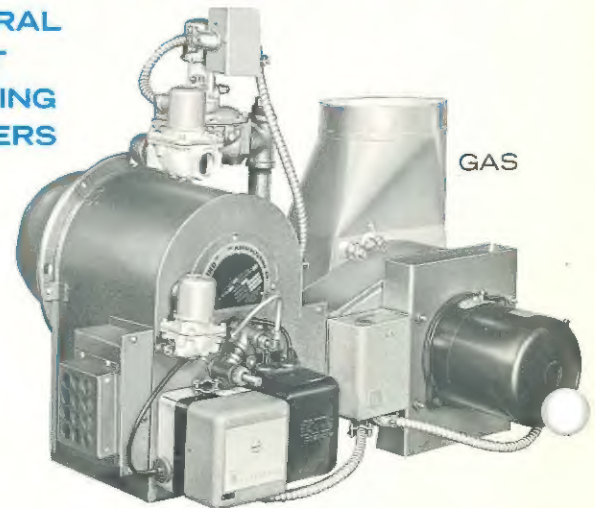


OIL



**TJERNLUND OIL**

INTEGRAL  
DRAFT  
INDUCING  
BURNERS

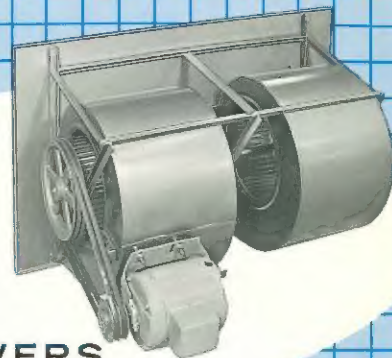
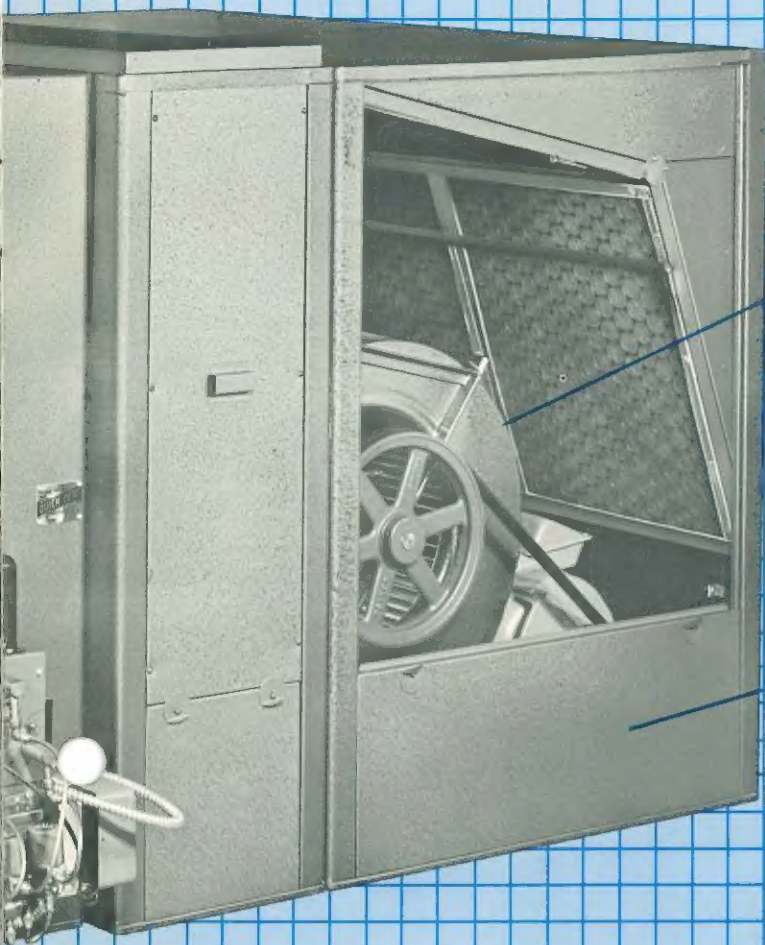


GAS



# PERFORMANCE

IN COMPLETE UNIT PRODUCTION



## BLOWERS

Special design D.W.D.I. blowers are custom made in the Tjernlund plant for greater efficiency and performance of Tjernlund units. Heavy gauge forward curve wheel delivers maximum air capacity.

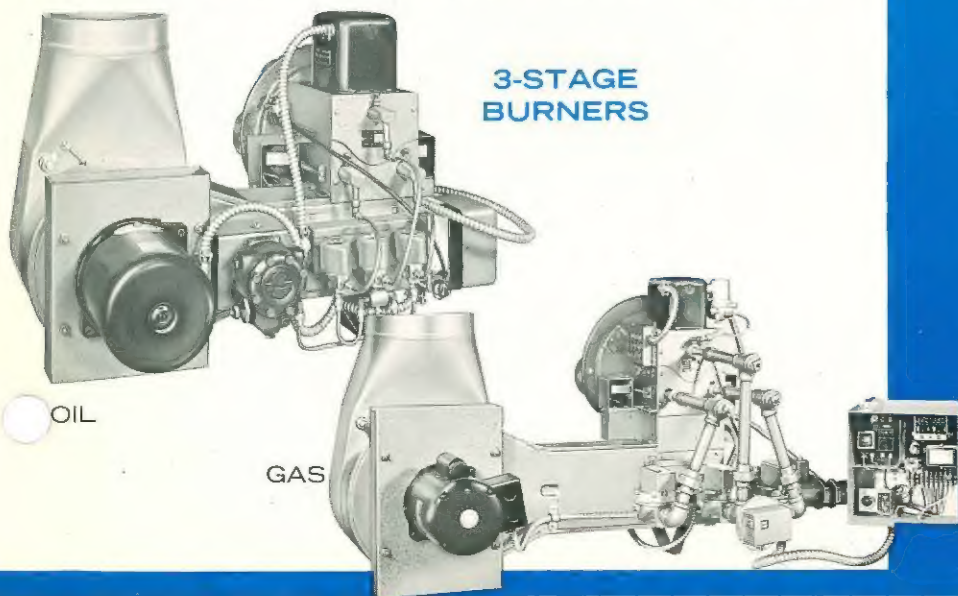


## CASINGS

Sturdy steel casings have matching finish of Silicone base baked enamel finish. By-pass and coil sections are constructed to fit in specified sizes. Units are interchangeable such as attaching a model 100 blower to a model 50 furnace.

## and GAS BURNERS

### 3-STAGE BURNERS



- Tjernlund burners in a variety of models are adaptable to every need for maximum heating efficiency. They are of exclusive Tjernlund design and manufacture.
- GAS FIRED MODELS . . . SINGLE STAGE jet fire power with range of 130,000 up to 423,000 BTU. INTEGRAL DRAFT INDUCING units completely automatic and with electronic controls up to 2 million BTU.
- THREE-STAGE burners to meet fluctuating load demands, includes draft induction and three firing stages.
- OIL FIRED MODELS . . . INTEGRAL DRAFT INDUCING and THREE-STAGE burners, fully automatic and with electronic controls.
- COMBINATION GAS & OIL . . . Integral induced draft, forced draft dual fuel burner for standby service. Single firing head.



# TJERNLUND

## Auto-Draft INDUCERS

Tjernlund draft inducers solve draft problems for any heating system. Automatic and positive draft assures smooth starts, cleaner burning, higher combustion efficiency and fuel savings. With a full range of sizes to fit any requirement, Auto-Draft inducers are a favorite with most particular heating contractors.

### NEW Auto-Draft JUNIOR

Simple to install—fits into limited space and outperforms most makes of larger models.

DATA SHEETS  
AVAILABLE

TIME TESTED ON THOUSANDS OF INSTALLATIONS EVERYWHERE



## TJERNLUND Heating Installations

Tjernlund designed heating and cooling equipment not only provides increased operating efficiency but also simplifies planning the installation. It is tailor-made for modern structural requirements of controlled temperature areas and space saving developments.



# TJERNLUND

MANUFACTURING COMPANY → 2140 KASOTA AVE. → ST. PAUL 8, MINN.

rec 10/31/64